



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,518	08/31/2001	James A. Finch	01W028	2661

7590

10/15/2003

William C. Schubert  
Raytheon Company  
2000 East El Segundo Blvd.  
P.O. Box 902  
El Segundo, CA 90245

EXAMINER

SUNG, CHRISTINE

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/945,518

Applicant(s)

FINCH ET AL.

Examiner

Christine Sung

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 is/are allowed.
- 6) ☒ Claim(s) 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyles et al. (US Patent 5,043,820) in view of Shinosky (US Patent 4,065,644).

Wyles discloses a radiation detection assembly and method comprising a plurality of radiation detectors (element 21) and a plurality of readout circuit cells (element 13), individual readout circuit cells being electrically coupled to one of the radiation detections through a node (see figures 1a and 1b, elements 12a and 13), and comprising circuitry (Figure 1a and elements 15-17) for reading out from the detector electrical signals generated by the incident radiation. Wyles does not disclose that the readout is done in a TDM manner. However, as shown by Shinosky, when multiple data streams, i.e. information from many different detector elements in

Art Unit: 2878

a single signal needs to be processed or read out , it is well known in the art to use a TDM method. One of ordinary skill in the art would be motivated to use such a method to quickly process large amounts of information by separating signals into many segments having very short duration and reassembling the signals at the receiving end.

***Allowable Subject Matter***

4. Claims 1-21 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1-9, none of the prior art of record discloses the specific configuration of the ROIC, namely the positioning of the second circuit between the detector node and the integration capacitance such that the circuit selectively couples the integration capacitance to the detector node as a function of the selected radiation band to be detected. Although references such as Wyles et al (US 5,751,005) and Goodnough (US 4,857,725) disclose similar circuit arrangements, they do not specify the specific circuit arrangement as disclosed in the claims.

Regarding claims 10-19, none of the prior art of record discloses the specific method of reading the unit cell, namely that during a given time frame, signals from a first band are detected and integrated or processed, then signals from a second band are detected and integrated or processed and at the conclusion of the given time frame the signals are read out. Conventional art uses a similar method in that it detects the signals from the various wavelengths, then proceeds to readout the signals, and then processes or integrates the signals, but does not disclose the steps as indicated above.

Art Unit: 2878

***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 703-305-0382. The examiner can normally be reached on Monday- Friday 7-4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Christine Sung  
Examiner  
Art Unit 2878

CS

  
**DAVID PORTA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**